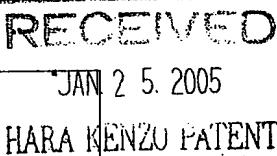


# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:



see form PCT/ISA/220

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Applicant's or agent's file reference  
see form PCT/ISA/220

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

International application No.

PCT/JP2004/014015

International filing date (day/month/year)

17.09.2004

Priority date (day/month/year)

19.09.2003

International Patent Classification (IPC) or both national classification and IPC

A61L15/60, C08F20/06, B01J20/26, C08J3/24

### Applicant

NIPPON SHOKUBAI CO., LTD.

### FOR FURTHER ACTION

See paragraph 2 below

#### 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

## Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This opinion has been established on the basis of a translation from the original language into the following language ; which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material:
    - in written format
    - in computer readable form
  - c. time of filing/furnishing:
    - contained in the international application as filed.
    - filed together with the international application in computer readable form.
    - furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**Box No. II Priority**

1.  The following document has not been furnished:

copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).  
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2.  This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3.  It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N) Yes: Claims  
No: Claims 1-19

Inventive step (IS) Yes: Claims  
No: Claims 1-19

Industrial applicability (IA) Yes: Claims 1-19  
No: Claims

2. Citations and explanations

**see separate sheet**

**Re Item V.**

1 The following document is referred to in this communication:

D1 : EP 0 837 076 A  
D2: EP-A-0 668 080

**2 NOVELTY**

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,3,10,11 is not new in the sense of Article 33(2) PCT.

2.2 Document D1 discloses a water-absorbent resin obtained by polymerizing a water-absorbent resin in the presence of a chain transfer agent; treating the polymerized resin with a hydrophilic solution; and heating the treated resin in the presence of a surface-crosslinking agent (see D1, page 6, line 19; page 6, line 53 to page 7, line 53; referential examples; examples; claims).

2.3 Document D2 discloses a water-absorbent resin obtained by polymerizing a water-absorbent resin in the presence of a chain transfer agent - phosphoric acid; and heating the treated resin in the presence of a surface-crosslinking agent (see D2, referential example 1; example 3; claims).

**3 INVENTIVE STEP**

3.1 The problem to be solved can be regarded as to provide an improved water absorbent and method of production whereby the water absorbent prevents gel blocking, does not have a dusting problem, has good handling properties, preservability, water-absorbing properties, and high gel strength when swelled.

3.2 The solution is a water absorbent and method of production comprising water-absorbing resin particles (prepared by polymerising a monomer containing acrylic acid and/or its salt) which are surface crosslinked and prepared from a water-absorbing resin prepared by boiling crosslinking polymerisation carried out in the presence of a water-soluble chain transfer agent.

3.3 D1, which can be considered as the closest prior art, discloses a water-absorbent

resin obtained by polymerizing a water-absorbent resin in the presence of a chain transfer agent (at 10-100 °C); treating the polymerized resin with a hydrophilic solution; and heating the treated resin in the presence of a surface-crosslinking agent (see D1, page 6, line 19; page 6, line 53 to page 7, line 53; referential examples; examples; claims). Therefore, D1 discloses the same solution to the same problem. Therefore, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,3,10,11 does not involve an inventive step in the sense of Article 33(3) PCT.

4 DEPENDENT CLAIMS 2, 4-9, 12-19

Dependent claims 2, 4-9, 12-19 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).